

Application Serial No. 10/657,716  
Response filed January 28, 2010  
Reply to Office Action mailed September 28, 2009

## REMARKS

Claims 1 and 3-13 are pending and under consideration. Claim 9 is amended herein. Reconsideration is requested based on the foregoing amendment and the following remarks.

### **Response to Arguments:**

The Applicants appreciate the consideration given to their arguments. The Applicants, however, are disappointed that their arguments were not found to be persuasive. The Office Action asserts in section 2, at the bottom of page 2, continuing at the top of page 3, that:

In the reference of Johnston '585, the system discloses performing functions in figures 4 and 6 concurrently or partially concurrently'. When looking at figure 6, the first and second facsimile devices establish a PSTN link with their respective gateways. If the PSTN link established with the sending facsimile occurs concurrently with the established link between the receiving facsimile and the respective gateway, the asserted claim feature mentioned above is performed. Therefore, with the above explanation, the Examiner believes the claim limitation is performed with the reference of Johnston.

Fig. 4 of Johnston, however, is a flowchart showing the fax transmit logic 159, as described at column 6, lines 36 and 37. Fax machine logic is not used for "setting up a transmission-controlling connection between the second fax machine and the second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway," as recited in claim 1.

Blocks 503 and 506 of Fig. 6 of Johnson '585 may correspond to T0 to T10 of Figs. 1A and 1B, Figs. 2A and 2B respectively, of the subject application. Blocks 503 and 506 of Johnson '585 are described at col. 8, lines 59-66. Blocks 503 and 506 of Johnson '585 describe the basic call setup and establishment of a payload channel, rather than "setting up a transmission-controlling connection between the second fax machine and the second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway," as recited in claim 1. Hence, Blocks 503 and 506 of Fig. 6 of Johnson '585 are out of the scope for the claimed invention and consequently unable to anticipate or suggest the claimed invention.

The next block (Johnson '585, Fig. 6, 509) teaches relaying startup negotiations between the first and second facsimiles as described at col. 8, line 66 to col. 9 line 1. This short sentence mentions neither any details, nor a concurrent transmission of signals between fax 1 and

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gateway 1 and gateway 2 and fax 2, respectively. At this point in time the claimed invention resides as given with T14/ T15 on the left-hand side (messages 138, 140) and on the right-hand side (messages 148, 150) of Fig.1B of the subject application. As there is no synchronization between gateway 1 and gateway 2 in the claimed invention, message transfer takes place concurrently and independently.

Furthermore, Johnson '585 mentions protocol T.38 as an example protocol. The claimed invention is not compatible with T.38, because the claimed invention teaches a concurrent, independent message transfer instead of an end-to-end transfer as recommended by T.38.

The Office Action goes on to assert in section 2, at page 3, continuing at page 4, that:

The Examiner maintains this view because of a statement raised in the response on page 8 indicating "A transmission controlling connection means again an exchange of T.30 signals" When looking at the statement of the Applicant, it is clear that the Endo reference performs the above feature of the transmission-controlling connection. In the Endo reference, column 8 clearly discloses that communication between the facsimile machines and the gateways occur within the T.30 communication procedure or standard3. Looking at figure 7, the steps (S1)-(S9) further illustrate the aspect of the transmission-controlling connection. The exchange of T.30 signals occur in steps (S1)-(S3) between the first fax machine and gateway and steps (S5) and (S6) between the second fax and gateway. With this illustration in figure 7 combined with the recitation in column 8, it is clear that the transmission-controlling connection between the first and second facsimile devices and their respective gateways (as defined by the Applicant in the response) is performed by the reference of Endo4.

Referring to Endo ('038): Fig. 7 of this reference shows an end-to-end transmission of T.30- signals like NSF, DIS and is conformant to the T.38 recommendation (col 8. lines 50 to 60). The claimed invention, on the other hand, doesn't have an end-to-end transmission of these fax signals.

The Office Action asserts the transfer of T.30 signals occurs in step 1 to 3 (Fig. 7. S1 - S3) and step 5 and 6, respectively. According to the description on col. 14, lines 57 to 65, however, the first three steps establish the basic connection between the sending fax machine and the gateway. (S1) simply seizes the line. After this at (S2) the gateway applies the dial tone. With (S3) the fax machine transmits the already dialed number of the intended receiving fax. Step 5 forwards the call, i.e. the ring signal, to the receiving fax. So far this is a standard procedure and is basically the same as given with figs. 1A/B (2A/B) between T0 and T10, rather than "setting up a transmission-controlling connection between the second fax machine and the

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second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway," as recited in claim 1.

Fig. 7 of Endo shows T.30 signals being exchanged end-to-end in the defined sequence. There is no hint of any concurrency, let alone "setting up a transmission-controlling connection between the second fax machine and the second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway," as recited in claim 1.

Finally, the Office Action asserts in section 2, at page 4, that:

In regards to the transmission of identification information, the Sakurai reference clearly performs this feature by sending the TSI signal in figure 7 from the sending facsimile to the receiving facsimile device. In the facsimile art regarding Fax relay over Packet Networks, it is well known to send a DCS signal from the calling fax to a receiving facsimile. Within a DCS signal, a NSS signal (which is seen in Endo) along with the TSI signal (which is seen in Sakurai) can be sent to the receiving facsimile to identify the calling fax device and certain aspects of the calling device to the called fax device.

Fig. 7 of Sakurai, however, shows a signal transfer, which is performed in a strict order. Fig. 7 of Sakurai gives no indication of any message transfer between the outgoing fax and the outgoing side being concurrent to a message transfer between the incoming side and the incoming fax, let alone "setting up a transmission-controlling connection between the second fax machine and the second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway," as recited in claim 1.

Further reconsideration is thus requested.

#### **Objection to the Claims:**

Claim 9 was objected to for depending from a canceled claim. Claim 9 was amended to depend from claim 1. Withdrawal of the objection is earnestly solicited.

#### **Claim Rejections - 35 U.S.C. § 103:**

Claims 1 and 3-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the section of the subject application entitled "Background of the Invention" (hereinafter "the Background"), to which the Office Action refers as "Admitted Prior Art," in view of U.S. Patent No. 6,381,038 to Endo et al. (hereinafter "Endo"), US Patent Application Publication No.

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2002/0001373 to Sakurai (hereinafter "Sakurai"), and U.S. Patent No. 6,480,585 to Johnson (hereinafter "Johnson"). The rejection is traversed. Reconsideration is earnestly solicited.

Endo deals with substantially the same problem as the claimed invention. The similarity ends at the time the payload channel is open. This point in time is marked in Fig. 2B of the subject application as t13. Endo, in particular, adjusts timeout values according to transmission delays that have been experienced. The connection from a sending FAX machine to the receiving FAX machine is set up as an end-to-end connection, even though the protocol (T.30 --> T.38 --> T.30) and transmission technology (TDM --> packet --> TDM) changes within the network.

In the claimed invention, the setup of a signaling connection between a sending FAX machine and a receiving FAX machine is done as in Endo. This is also true for the setup of the payload channel *until* the point in time marked as t13 (refer to Figs. 1B and 2B). So far no (exactly NO) timer needs to be adjusted due to transmission delays, because no payload has been transferred so far.

At this point the claimed invention, as opposed to Endo, proposes a completely different solution: Data gateways 1 and 2, in conjunction with the fax protocol units FX 1 and FX 2, act independently and approximately at the same time by exchanging messages 138/ 140 and 148/ 150, respectively. This opens the payload connection immediately on both sides of the packet network, and therefore independent from any transmission delays which may occur in the packet network. Furthermore a new message is introduced that is transferred from the data gateway 2 to the fax protocol unit FX 2, but this does not show up outside of the PBX2 (refer to Fig. 3). There is no need to adjust (i.e. to prolong) any timeouts in the FAX machines, as in Endo. The claimed invention, moreover, improves the speed of the process compared to, for example, a process like that of Endo, as described at page 14, lines 13, 14, and 15 of the specification. Any FAX machine or other equipment compliant with the T.30 standard can be used.

The sixth clause of claim 1, in particular, recites:

Setting up a transmission-controlling connection between the second fax machine and the second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway.

Neither the Background, Endo, nor Sakurai teach, disclose, or suggest "setting up a transmission-controlling connection between the second fax machine and the second data

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gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway," as recited in claim 1.

The Office Action acknowledges graciously in section 5, in the first full paragraph at page 10, that "the combination of the admitted prior art in view of Endo '038 and Sakurai '373 fails to specifically teach setting up a transmission-controlling connection between the second fax machine and the second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway," and attempts to compensate for the deficiency by combining them with US Patent No. 6,480,585 to Johnson. Johnson, however, is not "setting up a transmission-controlling connection between the second fax machine and the second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway" either, and thus cannot make up for the deficiencies of the Background, Endo, or Sakurai with respect to claim 1.

In Johnson, rather, the first facsimile 103 calls the first gateway 106 by way of the local loop 119 to establish a data link with the second facsimile 116, the first gateway 106 then contacts the second gateway 113 by way of the network 109, and the second gateway 113 contacts the second facsimile 116 through the local loop 123. In particular, as described at column 2, lines 62-67, continuing at column 3, lines 1 and 2:

During operation, for example, the first facsimile 103 calls the first gateway 106 by way of the local loop 119 to establish a data link with the second facsimile 116. The first gateway 106 then contacts the second gateway 113 by way of the network 109. Finally, the second gateway 113 contacts the second facsimile 116 through the local loop 123 to complete the data link between the first facsimile 103 and the second facsimile 116.

Since, in Johnson, the first facsimile 103 calls the first gateway 106 by way of the local loop 119 to establish a data link with the second facsimile 116, the first gateway 106 then contacts the second gateway 113 by way of the network 109, and the second gateway 113 contacts the second facsimile 116 through the local loop 123, Johnson is not "setting up a transmission-controlling connection between the second fax machine and the second data gateway substantially simultaneously with the transmission-controlling connection between the first fax machine and the first data gateway" either, and thus cannot make up for the deficiencies of the Background, Endo, or Sakurai with respect to claim 1.

The final clause of claim 1 recites:

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Transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway.

Neither the Background, Endo, nor Sakurai teach, disclose, or suggest “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway,” as recited in claim 1.

The Office Action acknowledges this deficiency with respect to the Background in section 5, in the first full paragraph at page 8, and attempts to compensate for it by combining the Background with Endo and Sakurai. Endo, however, is not “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway” either, and thus cannot make up for the deficiencies of either the Background or Sakurai with respect to claim 1. Each of the facsimile machines of Endo, rather, monitors whether the response signal is received from the counterpart facsimile machine within the timer value and, if the response signal is not received within the timer value, retransmits the transmitted signal. In particular, as described in the Abstract:

Using the timer value, each of the facsimile machines monitors whether the response signal is received from the counterpart facsimile machine within the timer value. If the response signal is not received within the timer value, retransmission of the transmitted signal is required.

Thus, Endo has no use for “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway,” as recited in claim 1.

Endo, moreover, appears to have at least noticed the problem solved by the claimed application, but approached a solution by having the calling and called facsimile machines increase their timer values using the selected timer value change information, as discussed above, instead of “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway,” as recited in claim 1. In particular, as also described in the Abstract:

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The called facsimile machine transmits all timer value change information for increasing the timer value to the calling facsimile machine. The calling facsimile machine selects the optimum timer value change information within the range of the timer value change information received from the called facsimile machine, and transmits the selected timer value change information to the called facsimile machine. The calling and called facsimile machines increase their timer values using the selected timer value change information.

Thus, Endo is not “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway” either, and cannot make up for the deficiencies of the Background with respect to claim 1.

In Endo, moreover, the calling facsimile machine judges that a transmission failure has occurred and *retransmits* the DCS or NSS signal and then the TCF signal unless the CFR signal is received within 3 seconds from the called facsimile machine. In particular, as described at column 12, lines 21-26:

For example, upon transmitting the TCF signal, the calling facsimile machine sets a T4 timer value (3 seconds). Then, unless the CFR signal is received within 3 seconds from the called facsimile machine, the calling facsimile machine judges that a transmission failure has occurred, and retransmits the DCS or NSS signal and then the TCF signal.

Since, in Endo, the calling facsimile machine judges that a transmission failure has occurred and retransmits the DCS or NSS signal and then the TCF signal unless the CFR signal is received within 3 seconds from the called facsimile machine, Endo has no need for “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway,” as recited in claim 1.

In Endo, moreover, if the normal T4 timer value (3 seconds) is set in the timer 55 at step S10, since more than 3 seconds have elapsed after the transmission of the TCF signal in an example of FIG. 7, it is necessary that the facsimile machine 111 *retransmits* the NSS signal and the TCF signal. In particular as described at column 16, lines 11-16:

The facsimile machine 111 receives the CFR signal from the gateway 211. If the normal T4 timer value (3 seconds) is set in the timer 55 at step S10, since more than 3 seconds have elapsed after the transmission of the TCF signal in an example of FIG. 7, it is necessary that the facsimile machine 111 retransmits the NSS signal and the TCF signal.

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Since, in Endo, if the normal T4 timer value (3 seconds) is set in the timer 55 at step S10, since more than 3 seconds have elapsed after the transmission of the TCF signal in an example of FIG. 7, it is necessary that the facsimile machine 111 retransmits the NSS signal and the TCF signal, Endo has no need for “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway,” as recited in claim 1.

In Endo, moreover, the twofold-increased T4 timer value of 6 seconds is set at step S10 and further the CFR signal is received within a lapse of 6 seconds, although after a lapse of 3 seconds, from the transmission of the TCF signal. In particular, as described at column 16, lines 17-23:

However, in the example of FIG. 7, the twofold-increased T4 timer value of 6 seconds is set at step S10 and further the CFR signal is received within a lapse of 6 seconds, although after a lapse of 3 seconds, from the transmission of the TCF signal. Accordingly, the facsimile machine 111 recognizes that the CFR signal is received within the normal response time.

Since, in Endo, the twofold-increased T4 timer value of 6 seconds is set at step S10 and further the CFR signal is received within a lapse of 6 seconds, although after a lapse of 3 seconds, from the transmission of the TCF signal, Endo has no need for “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway,” as recited in, for example, claim 1.

In Endo, moreover, the retransmission of the NSS signal and the TCF signal, which would be otherwise required due to the delay of the CFR signal relative to the TCF signal caused by the foregoing communication delay from the gateway 221 to the gateway 211, is not required so that the delay of the CFR signal relative to the TCF signal can be absorbed. In particular, as described at column 16, lines 24-28:

Thus, the retransmission of the NSS signal and the TCF signal, which would be otherwise required due to the delay of the CFR signal relative to the TCF signal caused by the foregoing communication delay from the gateway 221 to the gateway 211, is not required so that the delay of the CFR signal relative to the TCF signal can be absorbed.

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Since, in Endo, the retransmission of the NSS signal and the TCF signal, which would be otherwise required due to the delay of the CFR signal relative to the TCF signal caused by the foregoing communication delay from the gateway 221 to the gateway 211, is not required so that the delay of the CFR signal relative to the TCF signal can be absorbed, Endo has no need for “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway,” as recited in claim 1.

Sakurai, for its part, transmits a preamble signal 432 following a no-signal state 450 of 75.+-.20 ms after transmitting the CED signal 431, as discussed above. In particular, as described in paragraph [0012]:

After transmitting the CED signal 431, the incoming call side G3 facsimile apparatus 2202 transmits a preamble signal 432 following a no-signal state 450 of 75.+-.20 ms. The incoming gateway apparatus 1202 transmits preamble data 422 by an IFP packet.

Since Sakurai transmits a preamble signal 432 following a no-signal state 450 of 75.+-.20 ms after transmitting the CED signal 431, Sakurai is not “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the second gateway” either, and thus cannot make up for the deficiencies of either the Background or Endo with respect to claim 1.

Sakurai, moreover, hopes that a transmission delay occurs which is generally longer than that occurring in a telephone switched network, as discussed above. In particular, as described further in paragraph [0012]:

At this point, since an IP network 200 is provided between the incoming side gateway apparatus 1202 and the outgoing side gateway apparatus 1201, transmission delay occurs which is generally longer than that occurring in a telephone switched network. When a delayed time of the IP network at a time t is assumed to be  $Td(t)$  ms, it takes  $Td(t)$  ms for the IFP packet of the preamble data 422 to reach the outgoing side gateway apparatus 1201.

Since Sakurai hopes that a transmission delay occurs which is generally longer than that occurring in a telephone switched network, Sakurai is not “transmitting identification information of the sending first fax machine from the first data gateway to the second data gateway after setting up the transmission-controlling connection between the second fax machine and the

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second gateway" either, and thus cannot make up for the deficiencies of either the Background are Endo with respect to claim 1.

Therefore, even if the Background, Endo and Sakurai were combined as proposed in the Office Action, the claimed invention would not result.

The Office Action, nevertheless, asserts in section 5, at the bottom of page 9, and continuing at the top of page 10, that:

Therefore, in view of Sakurai '373, it would have been obvious to one of ordinary skill at the time the invention was made to have the feature of after setting up the transmission-controlling connection between the second fax machine and the second gateway, transmitting identification information of the sending fax machine from the first data gateway to the second data gateway, incorporated in the device of the admitted prior art, as modified by the features of Endo '038, in order to connect the facsimile apparatus to the respective gateway for the system to know the devices transmission or receipt state (as stated in Sakurai '373 paragraph [0047]).

Since each of the facsimile machines of Endo, however, monitors whether the response signal is received from the counterpart facsimile machine within the timer value, as discussed above, Endo already *knows* the device's transmission or receipt state. Endo is complete in itself. It would not be necessary for Endo to *also* transmit "identification information of the sending first fax machine from the first data gateway to the second data gateway" "after setting up the transmission-controlling connection between the second fax machine and the second gateway," since Endo already *knows* the device's transmission or receipt state. It is submitted, therefore, the persons of ordinary skill in the art who read the references for all they contained would not have modified the Background as proposed in the Office Action, since it would not have been necessary. Claim 1 is submitted to be allowable. Withdrawal of the rejection of claim 1 is earnestly solicited.

Claims 3-13 depend from claim 1 and add additional distinguishing elements. Claims 3-13 are thus also submitted to be allowable. Withdrawal of the rejection of claims 3-13 is earnestly solicited.

If there are any formal matters remaining after this response, the Examiner is invited to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing this Amendment, please charge them to our Deposit Account No. 19-3935.

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Respectfully submitted,

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Date: January 28, 2010

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